

WIRING

Irrigation control wire shall be thermoplastic solid copper, single conductor, low voltage irrigation controller wire, suitable for direct burial and continuous operation at rated voltages.

Tape and bundle control wire every 10' and run alongside the mainline. At all turns in direction, make a 2' coil of wire. At all valve boxes coil wire around a 3/4" piece of PVC pipe to make a coil using 30 linear inches of wire. Make electrical connections with 3MDBY/R connectors.

Number all wires, using an electrical book of numbers, according to the plans. Number wires in all valve boxes, junction boxes and at the controller.

Wire sized, numbered and colored as follows:

- #14 white for common
#14 spare black common
#14 individual color coded hot wire
#14 spare yellow hot wire

Spare wires

Leaving each controller, run four spare wires in both directions (eight spare wires total). Install as 1 common spare (2 total) and 3 hot wires (6 total). Loop these wires into each RCV along their path and terminate in the last valve box controlled by the wires respective controller.

Controller and pump station Control Panel grounding - Contractor to utilize 4"x8"x3/8" copper grounding plates, 3/8"x10' copper clad grounding rods, 'One Strike' CAD wells at all connection points, #6 insulated copper wire, and earth contact material.

LAYOUT

Lay out irrigation system mainlines and lateral lines. Make the necessary adjustments as required to take into account all site obstructions and limitations prior to excavating trenches.

Stake all sprinkler head locations. Adjust location and make the necessary modifications to nozzle types, etc. required to ensure 100% head to head coverage.

Spray heads shall be installed 4" from sidewalks or curbed roadways and 12" from uncurbed roadways and building foundations.

Shrub heads shall be installed on 3/4" Sch 40 PVC risers. The risers shall be set at a minimum of 18" off sidewalks, roadway curbing, building foundations, and/or any other hardscaped areas.

Locate valves prior to excavation. Ensure that their location provides for easy access and that there is no interference with physical structures, plants, trees, poles, etc.

VALVES

Sequence all valves so that the farthest valve from the POC operates first and the closest to the POC operates last.

Adjust the flow control on each RCV to ensure shut off in 10 seconds after deactivation by the irrigation controller.

Using an electric branding iron, brand the valve ID letter/number on the lid of each valve box. This brand must be 2"-3" tall and easily legible.

EQUIPMENT

All pop-up heads and shrub risers shall be pressure compensating. All pop-up heads shall be mounted on flex-type swing joints.

All sprinkler equipment, not otherwise detailed or specified on these plans, shall be installed as per manufacturer's recommendations and specifications, and according to local and state laws.

TRENCHING

Excavate straight and vertical trenches with smooth, flat or sloping bottoms. Trench width and depth should be sufficient to allow for the proper vertical and horizontal separation between piping as shown in the pipe installation detail on the detail sheet.

Protect existing landscaped areas. Remove and replant any damaged plant material upon job completion. The replacement material shall be of the same genus and species, and of the same size as the material it is replacing.

INSTALLATION

Solvent Wld Pipe: Cut all pipe square and deburr. Clean pipe on fittings of foreign material; then apply a small amount of primer while ensuring that any excess is wiped off immediately.

Pipes must curve a minimum of 30 minutes prior to handling and placing into trenches. A longer curing time may be required; refer to the manufacturer's specifications.

BACK FILL

The back fill 6" below, 6" above, and around all piping shall be clean sand and anything beyond that in the trench can be of native material but nothing larger than 2" in diameter.

Main line pipe depth measure to the top of pipe shall be: 24" minimum for 3/4" - 2 1/2" PVC with a 30" minimum at vehicular crossings;

30" minimum for 3" & 4" PVC with a 36" minimum at vehicular crossings.

Lateral line depths measure to top of pipe shall be:

- 18" minimum for 3/4" - 3" PVC with a 30" minimum at vehicular crossings;
24" minimum for 4" PVC and above with a 30" minimum at vehicular crossings.

Contractor shall backfill all piping, both mainline and laterals, prior to performing any pressure tests. The pipe shall be backfilled with the exception of 2' on each side of every joint (bell fittings, 90's, tees, 45's, etc.).

FLUSHING

Prior to the placement of valves, flush all mainlines for a minimum of 10 minutes or until lines are completely clean of debris, whichever is longer.

Prior to the placement of heads, flush all lateral lines for a minimum of 10 minutes or until lines are completely clean of debris, whichever is longer.

Use screens in heads and adjust heads for proper coverage avoiding excess water on walks, walls and paving.

TESTING

Schedule testing with Owner's Representative a minimum of three (3) days in advance of testing.

Mainline: Remove all remote control valves and cap using a threaded cap on SCH 80 nipple. Hose bibs and gate valves shall not be tested against during a pressure test unless authorized by written permission from the owner.

If these parameters are exceeded, locate the problem; repair it; wait 24 hours and retry the test. This procedure must be followed until the mainline passes the test.

Lateral lines: The lateral lines must be fully filled to operational pressure and visually checked for leaks. Any leaks detected must be repaired.

Operational Testing - Once the mainline and lateral lines have passed their respective tests, and the system is completely operational, a coverage test and demonstration of the system is required.

Upon completion of the operational test, run each zone until water begins to puddle or run off. This will allow you to determine the number of irrigation start times necessary to meet the weekly evapotranspiration requirements of the planting material in each zone.

SUBMITTALS

Pre-Construction: Deliver five (5) copies of submittals to Owner's Representative within ten (10) working days from date of Notice to Proceed.

After project completion:

As a condition of final acceptance, the irrigation contractor shall provide the owner with:

1. Irrigation As-builts - shall be provided accurately locating all mainlines, sleeves, remote control valves, gate valves, independent wire runs, wire splice boxes, controllers, high voltage supply sources/conduit path, control mechanisms, sensors, wells and water source connections.

2. Controller charts - Upon completion of "as-built" prepare controller charts; one per controller. Indicate on each chart the area controlled by a remote control valve (using a different color for each zone).

3. Grounding Certification - Provide ground certification results for each controller and pump panel grounding grid installed.

INSPECTIONS AND COORDINATION MEETINGS REQUIRED - Contractor is required to schedule, perform, and attend the following, and demonstrate to the owner and/or owners representative to their satisfaction, as follows:

- 1.Pre-construction meeting - Designer and contractor to review entire install process and schedule with owner/general contractor.
2.Mainline installation inspection(s) - All mainline must be inspected for proper pipe, fittings, depth of coverage, backfill and installation method.
3.Mainline pressure test - All mainline shall be pressure tested according to this design's requirements.
4.Flow meter calibration - All flow meters must be calibrated. Provide certified calibration report for all flow meters.
5.Coverage and operational test
6.Final inspection
7.Punch list inspection

FINAL ACCEPTANCE

Final acceptance of the irrigation system will be given after the following documents and conditions have been completed and approved. Final payment will not be released until these conditions are satisfied.

- 1.All above inspections are completed, documented, approved by owner.
2.Completion and acceptance of 'as-built' drawings.
3.Acceptance of required controller charts and placement inside controllers.
4.All other submittals have been made to the satisfaction of the owner.

GUARANTEE: The irrigation system shall be guaranteed for a minimum of one calendar year from the time of final acceptance.

MINIMUM RECOMMENDED IRRIGATION MAINTENANCE PROCEDURES

1. Every irrigation zone should be checked monthly and written reports generated describing the date(s) each zone was inspected, problems identified, date problems repaired, and a list of materials used in the repair.

A. Turn on each zone from the controller to verify automatic operation.

B. Check schedules to ensure they are appropriate for the season, plant and soil type, and irrigation method. Consult an I.A. certified auditor for methods used in determining proper irrigation scheduling requirements.

C. Check remote control valve to ensure proper setting, if present.

D. Check setting on pressure regulator it verify proper setting, if present.

E.Check flow control and adjust as needed; ensure valve closure within 10-15 seconds after deactivation by controller.

F. Check for leaks - mainline, lateral lines, valves, heads, etc.

G. Check all heads as follows:

- 1. Proper set height (top of sprinkler is 1" below mow height
2. Verify head pop-up height - 6" in turf, 12" in groundcover, and riser in shrub beds
3. Check wiper seal for leaks - if leaking, clean head and re-inspect.
4. If still leaking, replace head with the appropriate head with pressure regulator and built-in check valve.
5. All nozzles checked for proper pattern, clogging, leaks, correct make & model, etc. - replace as needed
6. Check for proper alignment - perfectly vertical; coverage area is correct;p minimize over spray onto hardscapes
7. Riser height raised/lowered to accommodate plant growth patterns and ensure proper coverage.
8. Verify pop-ups retract after operation. If not, repair/replace as needed.

H. Check controller/C.C.U. grounds for resistance (10 ohms or less) once per year. Submit written reports.

I. check rain shut-off device monthly and clean/repair/replace as needed.

J. Inspect all valve boxes to ensure they are in good condition, lids are in place and locked.

K. Inspect backflow devices by utilizing a properly licensed backflow inspector. This should be done annually, at minimum.

L. Inspect all filters monthly and clean/repair/replace as needed.

M. Check pump stations for proper operation, pressures, filtration, settings, etc. - refer to pump station operations manual.

N. Check and clean intake screens on all suction lines quarterly, at minimum. Clean and/or repair, as needed.

O. Winterize, if applicable, as weather in your area dictates. follow manufacturer recommendations and blow out all lines and equipment using compressed air. Perform seasonal startup of system as per manufacturer recommendations.

P. Conduct additional inspections, maintenance tasks, etc. that are particular for your site.

SOIL MOISTURE SENSOR (When applicable)

- 1. Place all soil moisture sensor wiring in 1" SCH 40 PVC conduit
2. Soil moisture sensor should be placed in the middle of a spray or drip area as per manufacturer's recommendations.
3. Controller shall be set to the Florida Automated Weather Network's urban scheduler settings using the SMS as a moisture cut off device (like a rain switch) per manufacturer directions.

PROPOSED SITE IMPROVEMENTS FOR:
AHERNSHOP BUILDING
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POMPANOBEACH, FLORIDA.
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Table with columns: DESIGNED (JPB), DRAWN (GRC), CHECKED (JPB), DATE (01/08/19), COMM. (180720)

IRRIGATION NOTES

PERMIT SET

811 KNOW WHAT'S BELOW ALWAYS CALL 811 BEFORE YOU DIG
DRC-3
PZ20-12090038
11/4/2020